



PATENT ABSTRACTS OF JAPAN

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(54) SYNTHESIS OF NUCLEIC ACID AND NUCLEIC ACID-IMMOBILIZED CHIP

(57) Abstract:

PROBLEM TO BE SOLVED: To obtain a nucleic acid useful for a DNA chip, etc., capable of performing an electrochemical gene detection, nucleic acid sequence examination, etc., and excellent in cost, convenience and sensitivity by using an electrode as a carrier for the synthesis of the nucleic acid chain and performing the synthesis of the nucleic acid chain on the electrode.

SOLUTION: This synthesizing method of a nucleic acid using an electrode as a carrier for a nucleic acid chain and performing the synthesis of the nucleic acid chain is provided by patterning 30x30 units of a gold electrode having 100 μ square on a glass base plate having 1 cm square, partitioning spaces among each of the electrodes with an insulation membrane of 50 μ , immobilizing dimethoxytrityl (DMT) on the gold electrodes, then flowing methanol as a solvent, charging 2 V potential to the electrode in the position for performing the nucleic acid chain for removing DMT at that position by a proton generated on the electrode, producing an active OH groups on the

surface of the electrode, reacting a phosphoramidite and tetrazole solution therewith and repeating an operation for introducing the nucleic acids only to the active position on the electrode surface to synthesize the nucleic acid on the electrode.

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